

## CLAIMS

What we claim:

1. A hard handoff method between an asynchronous CDMA system and a synchronous CDMA system, comprising:

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a first step for transmitting asynchronous CDMA channels from synchronous CDMA base stations with a purpose of synchronizing a handoff time at the synchronous CDMA base station and a code used at the synchronous CDMA base station, the transmission being done by a mobile terminal that is in communication with an asynchronous CDMA base station, the transmission being a part of handoff process and the mobile terminal performing the hard handoff to the synchronous CDMA base station;

a second step for reporting a measured result to the asynchronous CDMA base station on the basis of an intensity of an asynchronous CDMA pilot channel received from an adjacent synchronous CDMA base station, the reporting being done by the mobile terminal;

a third step for transmitting a handoff request message to the synchronous CDMA base station on the basis of the measured result, the transmission being done by the asynchronous CDMA base station;

a fourth step for transmitting an information to the asynchronous CDMA base station to perform the handoff, the transmission being done by the synchronous CDMA base station that receives the handoff request message; and

a fifth step for performing the hard handoff to the synchronous CDMA base station, the hard handoff being performed by the mobile terminal that receives the information through a traffic channel from the asynchronous CDMA base station.

2. The hard handoff method of claim 1, wherein the first step comprises:

transmitting an asynchronous CDMA synchronization channel and a common pilot channel; and

synchronizing the asynchronous CDMA synchronization channel and the common pilot channel with a starting point of an synchronous pilot channel, the synchronous pilot channel being transmitted from the synchronous CDMA base station.

reporting the intensity of signals and an information regarding the synchronous CDMA base station, the report being done by the mobile terminal if the intensity of signals received from the synchronous CDMA base station is bigger than an intensity of signals received from the asynchronous CDMA base station by a predetermined value; and

4. The hard handoff method of claim 1, wherein the information to perform the handoff includes a starting point of the hard handoff, a long code state at the starting point of the hard handoff, an offset index of a pilot PN (pseudo noise) sequence, a code channel index used in a forward traffic channel, and an offset value regarding the traffic channel.

releasing the traffic channel established with the asynchronous CDMA base station and establishing a traffic channel with the synchronous CDMA base station;

releasing resources between the asynchronous-CDMA base station and a switch, the synchronous CDMA base station reporting the handoff completion to the switch.

6. The hard handoff method of claim 5, wherein the traffic channel is established between the mobile terminal and the synchronous CDMA base station using the starting point of the hard handoff, the long code state at the starting point of the hard handoff, the offset index of the pilot PN sequence, the code channel index used in the forward traffic channel, and the offset value regarding the traffic channel.

7. The hard handoff method of claim 6, wherein the starting point of the hard handoff is determined by calculating how many frames of the common pilot channel have passed at the asynchronous CDMA base station from the moment when the mobile terminal receives the information.

8. A computer readable recoding medium for recording program, which provides a hard handoff method in a CDMA system being equipped with microprocessors, wherein the program comprises:

reporting a measured result to an asynchronous CDMA base station on the basis of an intensity of an asynchronous CDMA pilot channel received from an adjacent synchronous CDMA base station, the reporting being done by a mobile terminal;

transmitting a handoff request message to the synchronous CDMA base station on the basis of the measured result;

transmitting an information to the asynchronous CDMA base station, the transmission being done by the synchronous CDMA base station that receives the handoff request message; and

performing a hard handoff to the synchronous CDMA base station, the hard handoff being performed by the mobile terminal that receives the information through a traffic channel from the asynchronous CDMA base station.

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